

## Math 1124: Topics in Mathematics for Teachers

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Office Location: MA 220  
Office Hours: Email to make an appt.

**Text:** Packet of materials to be distributed in class.

AND

*Mathematics for Elementary Teachers, 3<sup>rd</sup> edition*, and *Activities Manual* by Sybilla Beckmann (These are packaged together. The ISBN for the package is: 0321447174).

### **Tutor Room**

Cockins Hall 137 will be available for small group work and work with tutors. The tutors are faculty and TAs who are teaching Math 107 and undergraduates who have completed Math 105, 106 and 107. Starting Wednesday of the second week of class, this room will be open Mon. - Fri. from 9:30 - 4:30.

### **Overall Grading Scheme:**

Attendance and Participation:	10%
Homework:	30%
Problem Reports:	20%
Midterm:	20%
Final Exam:	20%

**Final quarter grades will be determined roughly according to standard OSU scheme.**

### **Exams:**

There will be a midterm and final.

- Midterm – **Monday, October 15 in class**
- Final Exam – **TBA** (1 hr, 50 min)

### **Course Goals and Expectations:**

This course is the third in a sequence of courses (Math 105, 106 and 107 (1124)) with the goal of preparing you to teach. The goal is not only to prepare you to explain new mathematical content (Functions, Sequences and Series, Algebra, Counting, and Probability, Number Theory), but to help you further develop your abilities to speak and write clearly about mathematics. Toward that end, there are two different types of assignments, one more routine for developing

competence (“Homework”) and one more complex for developing your ability to write about mathematics (“Problem Reports”). The problems selected are intended to be challenging as a way to help you further develop your ability to learn mathematics. As you begin teaching, you will discover (as we all do) deficiencies in your own understanding that will require learning on your own. A goal of this course is to help you *learn how to learn*. As an added benefit, your experiences in this course may help you begin to reflect on how people learn mathematics.

*During Class:* Attendance and participation is critical to your success in this class. You are expected to participate in all small and large group work and discussions. For effective participation, you are responsible for bringing the appropriate materials to each class (sometimes the activities manual, sometimes the packet) as instructed.

*Between Classes:* You are responsible for reviewing and thinking about the current work. Reading assignments are designed to provide the explanation and summary of material that is not provided in a traditional lecture format. You are expected to complete all reading assignments. This outside reflection on each class’ activities is particularly important when there are no reading materials to accompany the class work!

*Homework:* There will be WEEKLY homework assignments. These assignments are included after the calendar. Each assignment will consist of 1-3 problems. All problems from each assignment will be graded.

*Problem Reports:* There will be TWO problem reports, each to be graded according to its own problem-specific rubric. A general rubric for the reports is at the end of this syllabus. Explanations of your reasoning and the details of your mathematics should be written clearly. Argue as thoroughly as you can that your method of finding the answer(s) works.

*Revision Policy:* Any graded homework problem may be revised and resubmitted no later than one week after you have received your graded paper. You must resubmit the original work with your instructor’s comments along with a complete revision of the problem solution. You may earn up to half the missed points on a revision. These will be added to the original score.

*Recommended Problems and Challenges:* A list of recommended activities are included in the Student Packet for extra assistance throughout the quarter and for preparation for exams, so be sure to take a look at these. The challenge problems, also on Carmen, are purely for enrichment. The only work to be

submitted is listed either as Homework or as a Problem Report.

### **A. GEC Information**

This Mathematics course can be used, depending on your degree program, to satisfy the Quantitative and Logical Skills category of the General Education Requirement (GEC). The goals and learning objectives for this category are:

Goals: Courses in quantitative and logical skills develop logical reasoning, including the ability to identify valid arguments, use mathematical models and draw conclusions based on quantitative data.

Learning objectives: Students comprehend mathematical concepts and methods adequate to construct valid arguments and understand inductive and deductive reasoning, scientific inference and general problem solving.

### **B. Disability Statement**

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated, and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/>.

### **C. Academic Misconduct Statement**

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee. For additional information, see the Code of Student Conduct ([http://studentaffairs.osu.edu/resource\\_csc.asp](http://studentaffairs.osu.edu/resource_csc.asp)).